

The fact of this paradoxical species having newly-hatched young—for I cannot suppose the bird sent to me could have been more than two or three days old—so late in the season as the 8th of August seems to be especially remarkable.

Magdalene College, Cambridge,
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XXI.—*On the Columbine Genus Macropygia and its Allies.*

By Major R. G. WARDLAW RAMSAY, F.L.S., F.Z.S., &c.

THE genus *Macropygia* is one about which but little has been written. It is at first sight a perplexing group, and this fact, perhaps, has prevented many ornithologists from even attempting to identify the specimens which they may have happened to find in local collections. Such are the variations in plumage in this genus, and so closely allied are many of the species, that it is only by an examination of a large series that satisfactory conclusions can be arrived at.

•The only systematic treatment which this genus has received is that of Count T. Salvadori (Orn. Pap. vol. iii. p. 132), and perhaps may be added that of Professor Schlegel (Mus. d. Pays-Bas, Columbæ).

With a view to secure sufficient materials for a revision of this group, I have endeavoured to collect as large a number of specimens as possible; and I here take the opportunity of acknowledging the kindness and courtesy of Dr. A. B. Meyer for the loan of specimens from the Dresden Museum, of Dr. Gestro, to whom I was introduced by Count Salvadori, for an interesting series from the Museum at Genoa, and, lastly, of Canon Tristram for placing his specimens at my disposal. These examples, together with the already large series in the National Museum, augmented, as it has been of late years, by the collections of the late Marquis of Tweeddale, and Messrs. Hume, Salvin and Godman, and Seebohm, have given me an opportunity such as has not been previously enjoyed by anyone for working out the genus.

At the outset the student of *Macropygia* is apt to be perplexed by the great variations in plumage in the same species. On closer examination, however, it will be found that this difficulty is more apparent than real, and that the plumages conform to a fairly definite and uniform system. But although this is so among specimens of the same species, a real difficulty presents itself when the attempt is made to differentiate the species themselves in an intelligible manner—so inconstant are most of the characters to which many of them owe their specific rank.

It is generally in the treatment of immature specimens that most difficulty is encountered; and I would here like to note that there are certain marks indicative of immaturity, some, or all of which, are to be invariably found in birds under a certain age. Of these I may mention black bases to the feathers of the head, excess of rufous, especially on the tips of the wing-coverts, secondaries, and tertiaries, black or blackish feathers on the breast with rufous tips and sometimes rufous centres, and a white or whitish chin and throat, or the feathers of these parts having white shafts.

I find that the species, with a very few exceptions, naturally fall into several well-marked groups. In some of these groups the sexes differ, but in others they are alike. The rule holds good, I think, with two exceptions, that when the plumage of the adult is more or less of a uniform colour (as in *M. phasianella* and *M. magna*), the sexes are alike, whereas in the groups in which the adult males are parti-coloured (as in *M. tusalia* and *M. amboinensis*) the sexes differ.

The genus *Macropygia*, Swainson, is confined to the Oriental and Australian Regions of Mr. Wallace ('Geogr. Distrib. Animals'). Its known range is from Nepal on the north and west, to the New Hebrides on the east, and the Australian continent on the south.

In habits *Macropygia* is a Ground-Dove of a tame nature, very partial to open glades and clearings in dense forest, especially when covered with a secondary growth of low scrubby jungle. It is generally found singly or in pairs, and

on being flushed it only flies a short distance and alights on some convenient branch, spreading out its tail like a fan as it does so. Its food is composed of seeds and berries, one very favourite fruit being the Chilli (*Capsicum fastigiatum*), of which it consumes an enormous quantity.

A very great difficulty which I have experienced in working out this genus, has been caused by the lack of reliably sexed specimens. I regret to find that the symbols on the labels of even the best collectors are not to be implicitly trusted. Collectors are too ready, and I do not except myself from the category, to trust their native taxidermist to determine the sex; indeed, this is often unavoidable. Natives are quite capable of doing it if they will; but I know from experience that, if they have preconceived ideas as to what sex a specimen ought to belong to, very often down goes the symbol on the label without any dissection. It is also impossible to make a native understand that, if the sexual organs, from mutilation or otherwise, are not distinguishable, it is far better to record no sex than to guess it. But no, that is not "Ramasawmy's" way of reasoning! "Master" has told him to be sure and sex every bird, and "Master" will be "plenty angry" if he doesn't; and so one or other symbol, as likely as not the wrong one, is put down to perplex the unfortunate naturalists at home. If field-naturalists would append their initials to the sexual symbol, as a guarantee that the dissection was made by them personally, the value of their collections to the worker at home would be much enhanced. For the above-mentioned reasons I have had considerable difficulty, in some cases, in determining which are adult females; and it is just possible that some of my conclusions may be found to be erroneous.

There is one specific title in the genus which has caused a good deal of difficulty—*Columba macroura*, Gmel. The late Lord Tweeddale has satisfactorily cleared this up, and his views will be found recorded by Capt. Legge ('Birds of Ceylon,' p. 699).

The specimens so marked in the British Museum belong to the true *M. amboinensis*, Linn.

The geographical distribution of the genus will best be shown by the table given at the conclusion of this article.

In general appearance *Macropygia* perhaps resembles *Turtur* more than any other genus. It has 12 rectrices.

Anatomically, Professor Garrod (P. Z. S. 1874, pp. 249–251) has shown that *Macropygia* belongs to the subfamily *Columbinæ*, having *Columba*, *Ectopistes*, and *Turtur* for its allies. These genera are distinguished by the presence of an oil-gland, cæca, and an ambiens muscle.

Genus I. *MACROPYGIA*, Swains. Class. Bds. ii. p. 348 (1837).

“Wings moderate, rounded; the first and second quills graduated, and much shorter than the third. Tail long, graduated, the feathers very broad and obtuse. The rump-feathers very thick-set. Bill short, the gonys angulated. Tarsus plumed. Hinder toe longer than the tarsus.”

Type *Columba phasianella*, Temm.

Syn. *Coccyzura*, Hodgs. J. A. S. B. xii. p. 936 (1843).

Type *Coccyzura tusalia*, Hodgs.

I shall now proceed to enumerate the species, which I have divided into five groups, with fairly well-defined distinguishing characters.

Group A.—*The head, nape, and mantle in the adult male unbroken metallic green or purple. Transverse bars on the tail conspicuous above. Sexes dissimilar.*

Confined to the Oriental Region.

1. *MACROPYGIA TUSALIA*.

Coccyzura tusalia, Hodgs. J. A. S. B. xii. p. 937 (1843).

Macropygia tusalia (Hodgs.), Jerdon, Bds. India, iii. p. 473.

Macropygia leptogrammica, Schleg. Mus. P.-B. iv. *Columbæ*, p. 107 (part.); Wald. Ibis, 1875, p. 459; Wardl. Rams. Ibis, 1877, p. 468; Oates, Bds. Burm. ii. p. 295.

Adult male. Forehead, chin, and throat vinaceous buff; head, nape, mantle, and sides of the neck shining metallic green, with purple or bronze reflections according to light; back, wings, wing- and upper tail-coverts dark brown, each feather tipped and barred with claret-brown; two central pairs of rectrices more or less clearly barred with claret-

brown above, third pair reddish brown with a slaty bar, and the three outer pairs slaty, with dark bars and a chestnut spot on the inner web: beneath the breast is vinaceous, more or less barred with dark metallic green and tipped with bronzy green or amethyst; the belly and under tail-coverts buff; axillaries and flanks slate-coloured.

Adult female. Somewhat like the male, but the lower surface is transversely barred, each feather being barred with buff or white and tipped with metallic green or purple; the belly and under tail-coverts buff or more or less barred.

Young. In the immature bird the head is transversely barred above, either with or without indications of metallic colour according to age. The plumage is more rufous beneath, especially on the breast. The chestnut spot on the outer tail-feathers is brighter, and the tail-feathers are tipped with rufous. Wing 7 to 7.5 inches, bill from gape 1, tail 7.5 to 8, tarsus 0.9.

Iris white, surrounded by a rim of pale lilac; orbital skin grey, with an inner rim of purple; bill blackish; legs purplish pink (*W. R.*).

Hab. This species is found throughout all the hill-ranges of Northern India (as far west as Nepal), Assam, Manipur, Burma, and Tenasserim. It probably extends across Yunnan and Southern China, but it has not been recorded thence; it reappears, however, in Hainan in the following race.

2. MACROPYGIA SWINHOU.

Coccyzura minor, Swinhoe, P. Z. S. 1871, p. 397 (Hainan).

This is a very dark race of *M. tusalia*, which, so far as is known, is peculiar to the island of Hainan. The transverse bars on the tail are nearly obsolete in some specimens. It is really not smaller than the typical race, although, from the make-up of the skins, it would appear so. I have therefore thought it best to supersede so inappropriate a title as "*minor*."

Hab. Hainan.

3. *MACROPYGIA LEPTOGRAMMICA*.

Columba leptogrammica, Temm. Pl. Col. 560 (1835).

? *Columba unchall*, Wagl. Syst. Av., *Columba*, no. 38 (1827).

Macropygia walik-mehra, Reichenb. Taubenvögel, p. 86, no. 191 (1862).

Macropygia leptogrammica, Schleg. Mus. P.-B. iv. *Columbæ*, p. 107 (part.).

Macropygia, sp., Sharpe, P. Z. S. 1887, p. 443.

Adult male. Like *M. tusalia* but smaller. Wing 6·5 to 7 inches. The barring of the upper surface is conspicuously broader and more rufous, and the metallic colours less bright. It is interesting to note that the Javan male has the head like the Indian bird, that is, green with purple reflections, while the Sumatran male has the reverse, purple with green reflections. The plumage is much more rufous below, and the tail-coverts cinnamon-rufous rather than buff.

Adult female. From want of sexual determinations I cannot write with certainty, but in an apparently adult female, so marked by Wallace, from Java, the head and mantle are barred brown and rufous like the rest of the upper surface; a slight tinge of purple is on the head; the feathers of the neck, mantle, and breast with transverse bars of golden brown, tipped metallic green with purple reflections: beneath fulvous isabelline barred with dark brown; under wing-coverts, axillaries, and flanks rufous.

Young. Much like the female, but with the bars on the neck and mantle pale buffy in place of rufous, and the metallic colour confined to the bars on the breast.

Iris yellow; eyelids and feet red; feet red (*Wallace*).

Hab. The hills of Sumatra and Java up to 7500 feet; the Malay Peninsula.

From the latter locality I have only seen one specimen, which was obtained in the hills of Larut in Perak by Mr. Wray. It is a male with a wing of 6·8 inches. It belongs to the *M. leptogrammica* and not the *M. tusalia* form, but differs in the irregularity of the tail-bars, which are bent instead of going straight across the tail.

Mr. Blyth (Ibis, 1870, p. 73) is, I believe, responsible for the statement that *M. leptogrammica* is found in Celebes. This locality is doubtless erroneous. There is a specimen from the Leiden Museum in the National Collection which is marked Celebes. But it is evident that the label has been transposed or that some mistake has occurred; for the specimen in question does not even belong to the Malayan form, but to the Indian *M. tusalia* race.

Our next group is a large one, and is found in both regions, one species, *M. emiliana*, Bp., being found on both sides of the Straits of Lombock.

Group B.—*Plumage of adults uniform or nearly so. Prevailing colour chestnut or cinnamon-rufous. Sexes alike or nearly so.*

Section a.—*Of large size.*

4. MACROPYGIA PHASIANELLA.

Columba phasianella, Temm. Trans. Linn. Soc. xiii. p. 129; id. Pl. Col. 100; Gould, Bds. Australia, v. pl. 75.

Adult. General colour above chestnut-brown, below cinnamon-rufous, deepening into chestnut on the abdomen and lower tail-coverts. Occiput metallic amethyst, with green reflections; a slightly vinous tinge on the breast; primaries dark brown; under wing-coverts, axillaries, and inner margins of primaries rufous; three outer pairs of rectrices with a broad black band extending towards the base on the inner web.

According to Gould the sexes are alike.

Iris blue with an outer circle of scarlet; orbital skin bluish lilac; feet red (*Gould*). Wing 7·5 to 7·9 inches, tail 9, bill 1, tarsus 1.

Young. An immature bird, marked female (Port Molle, Queensland, 'Alert'), has recorded: iris red; bill reddish; legs and feet red. It is of a much redder chestnut, especially on the crown, the upper wing-, and upper and lower tail-coverts; the mantle is browner; beneath it is minutely freckled with dark brown; the sides of the head and neck

pale brown, with an appearance of bars from the feathers having dark bases and a dark spot on the outside of each web.

Hab. Australia.

Mr. Gould has an interesting note on the habits of this species (Handb. B. Austr. ii. p. 114). The type specimen, which is in the British Museum, is not adult, the lower surface being transversely barred; the tail-feathers are very much pointed. This latter character, as well as the shape of the rectrices, varies much in different specimens.

5. *MACROPYGIA TENUIROSTRIS*.

Columba phasianella, Temm. Pl. Col. 100 (Manilla), nec Trans. Linn. Soc. xiii. p. 129.

Macropygia tenuirostris, G. R. Gray, List Bds. Brit. Mus. Columbæ, p. 39 (1856) (Philippines); Schleg. Mus. P.-B. iv. Columbæ, p. 109; Wald. Trans. Z. S. ix. p. 218 (p. 382) *; id. P. Z. S. 1878, p. 288 (p. 594); Sharpe, Ibis, 1888, p. 203 (Palawan).

Macropygia eurycerca, Tweedd. P. Z. S. 1878, p. 288 (Negros) (p. 594) et p. 952 (Mindanao) (p. 643), et 1879, p. 73 (Basilan) (p. 651).

Adult. Like *M. phasianella*, but more purple-brown above; the head, neck, breast, and under surface cinnamon-rufous, with a vinous tinge on the occiput; the mantle brown, minutely freckled with rufous, and tipped with amethyst; wing-coverts more or less tipped with rufous.

A specimen from Luzon (*Meyer*) in the same plumage as the male, and marked female, is in the British Museum. Considering this specimen, together with the very emphatic statement of Mr. Gould (Handb. B. Austr.) as to the identity of the sexes of *M. phasianella*, and also my own experience of *M. rufipennis* in the Andaman Islands, I feel constrained to assume that the sexes are similar throughout the group. However, there are specimens, which have no appearance of youth, which differ markedly; one of them, which perhaps is a young bird, has the head bright rufous with a vinous tinge;

* The numbers in brackets after references to Lord Tweeddale's writings refer to the 'Memoir.'

upper surface dull brown, tipped with rufous; nape and mantle pale rufous, barred with dark brown, with a metallic green tinge; upper tail-coverts freckled with rufous: beneath deep chestnut with dark transverse bars.

Young. One specimen marked female (Basilan, *Everett*) is evidently young; it has the throat and breast blackish brown, with a central streak or spot of rufous on each feather.

Another young *female* from S. Mindanao is brown above, edged with rufous, especially on the wing-coverts; head bright chestnut, feathers dark at the base; nape more or less broadly barred with pale rufous or chestnut. Wing 7·4 to 7·7 inches, tail 8·7, tarsus 0·9. Iris yellow, with an outer rim of crimson; orbital region and base of bill crimson; bill light brown; feet carmine (*Everett*).

Hab. Philippine Islands, Palawan, Sulu Islands.

The birds found in Negros and S. Mindanao have been described by the late Lord Tweeddale as *M. eurycerca*.

On examination of a series of seventeen specimens from different islands I fail to see how this species can stand. The colour of the back in all species of *Macropygia* varies much; the rufous edging to the wing-coverts, relied on by Lord Tweeddale, is also a varying quantity, and besides that, it is distinctly visible even in the type specimen, and broadly so in the S. Mindanao birds, which Lord Tweeddale has himself referred to *M. eurycerca* (*l. c.*).

The S. Mindanao birds are, however, a good deal smaller; wing 6·6 inches. Palawan and Sulu birds do not differ, but the latter agree with S. Mindanao birds in size.

6. MACROPYGIA EMILIANA.

Macropygia emiliana, Bp. Consp. ii. p. 58; Reichenb. Taubenvögel, p. 88, no. 197 (pt.).

Macropygia tenuirostris, G. R. Gray; Schleg. Mus. P.-B. iv. Columbæ, p. 109; Sharpe, Ibis, 1890, p. 137.

Adult. Like *M. tenuirostris*, but smaller, and at all times to be readily distinguished by its colour being both lighter and brighter and having a distinctly vinous tinge;

occiput, nape, and mantle metallic amethyst, with traces of the same on the breast; all the feathers above minutely freckled with rufous: beneath bright vinous chestnut; three outer pairs of tail-feathers broadly tipped with rufous.

I am somewhat in doubt as to what the plumage of the adult female is like.

It would seem as though in this group of *Macropygia* the sexes do not differ, but at the same time there are specimens in the British Museum which are marked female, and which show no signs of youth. They are of a duller chestnut-brown than the males; head like the male, but a little darker; upper surface without amethyst and more or less barred, especially on the nape and mantle, which are of a brighter chestnut; beneath rufous, with transverse bars on the breast. One female specimen, from Java, evidently young, has the breast-feathers blackish with rufous centres. Wing 6·7 to 7 inches, tail 7·5 to 8·2, tarsus 0·8, bill 1.

Hab. Lombock, Java, and Borneo.

This is the only species of the genus which is found on both sides of the Straits separating the Oriental and Australian Regions. It is the connecting-link between *M. phasianella* and its outlying races.

7. *MACROPYGIA MODIGLIANII*.

Macropygia modiglianii, Salvad. Ann. Mus. Civ. Genova, ser. 2, iv. p. 559, pl. viii. f. 2.

This is simply a darker and rather larger race of *M. emiliana*, intermediate between it and *M. tenuirostris*. Wing 7·3 inches, tail 7·5, tarsus 1·1, bill 1.

Its coloration is also conspicuously brighter, especially in the amethystine of the upper surface, nape, and mantle, and the vinous tinge of the back and upper tail-coverts, which is much brighter on the latter. The legs and feet are much more massive. Iris, dusky blue with a double circle of white externally in the male, red in the female; bill chocolate; feet red (*Modigliani*).

Hab. Island of Nias.

I have to thank the officials of the Museum at Genoa for the loan of the type specimen of this species.

Count Salvadori describes the female as being like the male, but with very faint purple and golden reflections on the neck, and with transverse bars of black, especially on the nape and upper part of the back.

8. *MACROPYGIA RUFIPENNIS*.

Macropygia rufipennis, Blyth, J. A. S. B. xv. p. 371 (1846) ; Walden, Ibis, 1873, p. 315 (p. 247) ; Hume, Str. Feath. ii. p. 266 (1874).

Adult. General colour above chestnut, browner than in *M. emiliana*, but without the vinous tinge; the mantle minutely freckled with rufous and barred with brown: beneath, chin, throat, and sides of head paler chestnut, remainder of the lower surface chestnut, barred with brown, brighter on the abdomen, which is freckled; amethystine reflections on the breast and sides of neck; under wing-coverts, axillaries, inner webs of the primaries, and the lower tail-coverts cinnamon-rufous.

Young. Younger birds have the bases of the feathers of the crown and a spot on the outside of each feather dark brown, giving the head the appearance of dark striations; the back is much browner and less chestnut in some, and the breast is of a uniform bright chestnut; the mantle, as in the young of most species, is brown, transversely barred with yellowish or whitish buff or pale chestnut; the primaries are almost entirely rufous both above and below.

The sexes do not differ.

In examining the very large series in the British Museum, I have based my conclusions only on the specimens which I believe to have had their sexes determined by Mr. Davison or myself. I regret to say that little reliance can be placed on the sexual determinations of the taxidermist who made up a large proportion of the skins, at first in Mr. Davison's service, then in mine, and lastly in that of Capt. Wimberley.

I have been led to a different conclusion from Mr. Hume (*l. c.*), who thought the unbarred birds were the older. I find that excess of rufous, and especially the dark striation of the head, is nearly always indicative of youth. Wing 7·3 to 7·7 inches, tail 8, tarsus 1, bill 0·9. Iris light blue, encircled

by a ring of carmine ; orbital skin leaden blue ; bill and legs purplish pink.

Hab. Andaman and Nicobar Islands.

This is an outlying race of *M. phasianella*, and has, perhaps, departed more than any of the other races from the original type.

Mr. Blyth has an interesting note on its habits in confinement, in the J. A. S. B. vol. xv. p. 371.

The next species seems naturally to find a home in this group, but for the fact that its sexes differ. If it is not included here, it must stand in a group by itself.

9. *MACROPYGIA RUFICEPS*.

Macropygia ruficeps, Temm. Pl. Col. 561 (1835) ; Nicholson, Ibis, 1881, p. 155 ; Sharpe, Ibis, 1890, p. 137.

Macropygia assimilis, Hume, Str. Feath. ii. p. 441 (1874) ; Oates, Bds. Burm. ii. p. 296.

Adult male. General colour above dark chestnut, almost brown on the back ; head conspicuously paler ; nape, mantle, sides of head and breast darker, with a vinaceous tinge, and with metallic green or amethyst reflections : beneath cinnamon-rufous, with a slightly vinous tinge, whitish on the throat, and the pectoral feathers more or less broadly tipped with white.

Younger males, nearly adult, differ in having some of the feathers of the nape and mantle with bars of dark metallic green or purple, giving a spotted appearance, and also a trace of very dark metallic barrings on the outer edges of the breast-feathers. Wings brown, wing-coverts broadly edged with, and the margins of the inner web of the primaries and the axillaries, rufous. Yet *younger males* are rather darker in plumage and have the bars more pronounced ; and the breast is also black-spotted as in the female.

Adult female. Head and tips of wing-coverts bright reddish chestnut ; nape, back and tail brown ; mantle the same, freckled with pale brown ; upper tail-coverts narrowly tipped with chestnut or rufous : beneath more or less uniform cinnamon-rufous ; the feathers of the throat and

breast blackish brown, with a rufous spot at the tip, giving the breast the appearance of being black-spotted.

In the *younger female* the plumage is darker and more mottled in appearance, more black showing on the throat and breast and the bases of the feathers of the head : beneath rufous, pectoral feathers blackish, tipped with rufous. One specimen from Bantam (*Forbes*) in Canon Tristram's collection, which is marked a female, is very markedly rufous above, especially on the wing- and upper tail-coverts.

Javan birds have the wing 5·8 inches, tail 7, tarsus 0·75, bill 0·85. Tenasserim and Burmah birds (*M. assimilis*, Hume) are rather larger : wing 6·1 inches, tail 6·8 to 7·1.

The only Bornean specimen which I have examined, obtained by Mr. Whitehead on Kinabalu, is a young male, and is even smaller than Javan birds, having the wing 5·3 inches and the tail 5·7.

Birds from Java, Sumatra, and Borneo seem to be all alike in plumage, and to have the dark metallic green barrings on the nape and mantle more pronounced than in those from the Burmese countries.

Hab. Java, Sumatra, Borneo, Malay Peninsula, Tenasserim, Burmah.

The great mass of evidence from the series of birds, many of them carefully sexed, either by Mr. Davison or myself, goes to show that in this species the sexes differ. It is true that one of Mr. Davison's Tenasserim specimens in male plumage is marked female ; but it is obvious that the symbol has been added to the label by a native collector, and not by Mr. Davison himself, who made his symbols in quite a different manner.

In almost every instance in which my conclusions as regards sexual plumages have been confuted by specimens of a reliable collector, I have found something irregular about the label.

Iris pearly white (pinkish or brown in the young) ; orbital skin pale blue-grey, with an inner ring of blue ; bill pale brown ; legs and feet brownish pink or red.

Section *b*.—*Of small size*.

Confined to the Australian Region.

10. *MACROPYGIA RUF*A.

Macropygia rufa, E. P. Ramsay, Pr. Linn. Soc. N. S. W. ii. p. 287 (1878) (Havannah Harbour, Sandwich I.) ; id. Ibis, 1882, p. 344 ; Tristr. Ibis, 1879, p. 194.

Adult male (Vaté, New Hebrides, Mus. Tristr.). Above chestnut-brown, browner on the upper tail-coverts : beneath paler and more hazel ; under wing-coverts and axillaries bright rufous ; tail beneath pale chestnut, three outer pairs of rectrices buff, with a broad band across the centre of the feathers and extending towards the base of the inner web. Iris orange ; bill black ; legs dull red. Food, seeds (*Layard*).

Another specimen (Erromanga, Mus. Salv. and Godm.) is somewhat duller in plumage and is said to have had the iris yellow ; bill black ; feet red.

Adult female (Tanna, Mus. Salv. and Godm.). Like the male, but paler and less rufous above : beneath a uniform cinnamon-brown, more rufous on the under tail-coverts ; the feathers of the breast black at the base, giving it a mottled appearance, and forked as in some species of *Ptilonopus*. Iris yellow ; feet cherry. Food, berries (*Richards*).

Another specimen from Anciteum is like the last, but darker above, more fawn-colour below, some of the breast-feathers freckled with white ; the lower tail-coverts rufous. Wing 5·9 to 6·3 inches, tail 6·6 to 7·3, tarsus 0·8 to 0·9, bill 0·7 to 0·8.

Hab. New Hebrides.

I think there is little doubt that all these specimens belong to the same species.

Mr. Layard has suggested that this species is the *Columba ferruginea*, Forster, said to have come from Tanna ; but from the description of that bird in the ‘*Descr. Anim.*’ it is evidently *Treron fulvicollis* with a wrong locality.

11. *MACROPYGIA MACKINLAYI*.

Macropygia mackinlayi, E. P. Ramsay, Pr. Linn. Soc. N. S. W. ii. p. 286 (1878) (Tanna).

What this bird, from the Island of Tanna, can be I do not know. Mr. E. P. Ramsay suggests (*l. c.*) the likelihood that it is the same species as the last, but it is difficult, from his description, to realize such a possibility. Certainly none of the four specimens described above approach to the remarkable characters ascribed to *M. mackinlayi*. On the other hand, it does not seem likely that an island of the size of Tanna should contain two distinct species of small *Macropygiae*.

I append Mr. E. P. Ramsay's description of his type specimen:—

“The whole of the upper surface dark ashy brown, darker on the wings, the second, third, and fourth primary quills with an inconspicuous narrow line of white on the outer edge of the outer web; the rump and upper tail-coverts, wing-coverts and scapularies minutely freckled with ashy white, giving a powdery appearance to those parts: the under surface is of a light ashy brown, blackish in the centre of the chest-feathers, which are forked; the throat and the whole of the under surface minutely freckled with a light ashy tint; under wing-coverts and inner webs of quills ashy white; tail ashy brown, lighter below the outer feathers, above blackish, the tips ash-white, and an oval cream-coloured patch occupying the central portion of the feathers and extending over the outer web to the base; the blackish colour to the inner web extends in a wedge-shaped stripe along the shaft; the next feather similar, but without the whitish mark on the inner web; an oval oblique spot of cream-colour on the inner web only on the third quill; the fourth, fifth, and sixth without spots and of a uniform ash-brown; under tail-coverts creamy white; tarsi olive-brown; bill black. Total length 12 inches; bill from forehead 0·6, from base of nostril 0·5; wing 6·1; tail to central feathers 6·8, to outer 3·6; tarsi 0·85, middle toe and nail 1·05. Sex female.

“*Hab.* Island of Tanna.

“This interesting species has the peculiarity of having the feathers forked as in some of the *Ptilonopi*.

“Notwithstanding the great differences in coloration be-

tween this and the previous species (*M. mackinlayi*) from Tanna, they may hereafter prove identical: the style of markings is very similar; but the bill in *M. rufa* is stronger and more rounded at the tip; both have comparatively weak bills, and on the whole are very slightly built birds."

12. *MACROPYGIA RUFO-CASTANEA*.

Macropygia rufo-castanea, E. P. Ramsay, Pr. Linn. Soc. N. S. W. iv. (1880) p. 314 (read June 1879); Ogilvie-Grant, P. Z. S. 1888, p. 200.

Macropygia arossi, Tristr. Ibis, 1879, p. 443 (San Cristoval, Solomon Is.).

Female, adult (Guadalcanar, Mus. Brit.). Above reddish chestnut: beneath cinnamon-rufous, paler on the throat; tail beneath the same, much brighter on the outer pair of feathers, and the three outer pairs having a dark band across each feather extending towards the base of the inner web; primaries, beneath, bright cinnamon-rufous on the inner web; under wing-coverts and axillaries cinnamon-rufous; breast-feathers forked as in *M. rufa*, black at base and tipped with rufous. Wing 5·7 inches, tail 6·3, tarsus 0·7, bill 0·7. Iris orange; bill black; feet red (*Woodford*).

Female, young. Head-feathers black at base and a black spot on either web; tail-feathers more pointed. Wing 5·3 inches. Iris reddish brown; bill black; legs dull pink.

Female, younger. Like the last, but the breast-feathers not forked. Wing 5·7 inches. Iris brown; bill black; feet red (*Woodford*).

I have not seen an adult male, but it is probably like the female, with the exception, perhaps, of the spotted breast. I have examined an *immature male*, however, the type of *M. arossi*, in the museum of Canon Tristram; it is nearly adult and is like the female, but the breast-feathers are not forked. Another *young male* is in the British Museum: it is like the last, but slightly barred above. Wing 5·3 inches. Iris light drab; feet dark cherry. Food, berries (San Cristoval, *Richards*).

Hab. Solomon Islands.

13. *MACROPYGIA NIGRIROSTRIS*.

Macropygia nigrirostris, Salvad. Ann. Mus. Civ. Genova, vii. p. 972 (1875); id. Orn. Pap. iii. p. 149; Sci. P. Z. S. 1877, p. 111.

Adult male (New Guinea). Above rich chestnut-brown, darker on the head, paler on the nape and mantle, which has a shade of dark vinous or purple; upper tail-coverts and central rectrices above very distinctly barred with blackish brown, as in *M. leptogrammica*, three outer pairs above unbarred: beneath somewhat paler and more rufous; the under wing-coverts and axillaries rufous; tail rufous with a dark band across each feather extending towards the base of the inner web.

The *female* is probably similar; the one described by Count Salvadori (*l. c.*) appears to be immature.

A *young female* from N.W. New Guinea is dark brown above, obscurely barred with rufous, the head having the appearance of dark striations; the mantle is barred with light rufous, and the upper tail-coverts and tail with blackish brown: beneath pale rufous-brown, barred with dark brown, the belly and lower tail-coverts rich cinnamon-rufous. Wing 5·8 inches, tail 6·6, tarsus 0·8, bill 0·7.

The bill in the birds from New Guinea is very stout. They agree otherwise with specimens from the New Britain group, but the latter are rather browner in the back.

A *young male* from the foot of the Astrolabe Mts. (*Forbes*) is brown above, the feathers tipped with rufous, which is much paler on the nape and mantle; the tail irregularly barred with rufous, as in a specimen of *M. leptogrammica* from Perak referred to above (p. 219): beneath rufous, as in the young female, the feathers of the breast blackish, with rufous tips and rufous lines down the centres. Iris blue; bill corneous; legs and feet reddish corneous (*Forbes*). But see Salvad. (*l. s. c.*).

This specimen, at first sight, looks like a *Cacomantis* in the hepatic stage.

Hab. New Guinea, New Britain, Duke of York Island, New Ireland*.

* When habitats are given in italics it means that I have not personally examined specimens from that particular locality.

This is the only species outside the *M. tusalia* group in which the middle pairs of rectrices are conspicuously barred above.

Group C.—*Adult males chestnut-brown above, vinaceous or barred, or both, beneath. Sexes dissimilar.*

Section a.—*Breast faintly vinaceous, with transverse bars.*

Confined to the Australian Region.

14. *MACROPYGIA AMBOINENSIS*.

Columba amboinensis, Linn. S. N. i. p. 286 (1766) (Amboina).

Macropygia amboinensis, Wall. P. Z. S. 1863, p. 34; id. Ibis, 1865, p. 389 (Bouru); Salvad. Orn. Pap. iii. p. 132.

Macropygia albiceps, Temm. Mus. Lugd. (Bp. Consp. ii. p. 56); Gray, List Bds. Trop. Is. p. 43 (error?).

Macropygia turtur (pt.), Schleg. Mus. P.-B. iv. Columbæ, p. 110.

Macropygia buruensis, Salv. Ann. Mus. Civ. Genova, xii. p. 428; id. Orn. Pap. iii. p. 135.

Adult male. Head bright cinnamon-rufous, with a vinous tinge, paler on the forehead, buffy white on the throat; whole upper surface bright chestnut-brown, the feathers of the nape and mantle tipped with shining metallic greyish green or amethyst; faint, nearly obsolete, bars on the tail: beneath tawny buff, paler on breast, where many of the feathers are tipped with white, and deepening into rufous on the abdomen and under tail-coverts; under wing-coverts and axillaries bright chestnut; tail beneath brown, the three outer pairs of rectrices with the basal half and tip more or less rufous; the breast distinctly and the abdomen and under tail-coverts faintly barred with dark brown.

In one specimen from Amboina, marked male, the under surface is of a nearly uniform cinnamon-rufous brown, barred, but without white tips to the pectoral feathers.

Adult female. Head and upper tail-coverts bright reddish chestnut, tail browner; back and wings brown, feathers broadly tipped with chestnut, especially on the wing-coverts

and secondaries; nape and mantle pale buffy, barred with very dark metallic green or purple or freckled with brown without bars: beneath light chestnut-brown, darkest on the abdomen and under tail-coverts, barred as in the male.

Younger birds are like the female, but less bright, the feathers of the head being dark brown at the base and only tipped with chestnut; the breast not barred or only faintly in some specimens, but breast and throat-feathers blackish brown tipped with chestnut, giving a mottled appearance. Wing 6·6 to 7·1 inches, tail 8 to 9, tarsus 0·9, bill 0·9.

Adult. Iris brown, with inner ring of grey; bill pinkish corneous with tip sooty colour; legs and feet faded pink.

Young. Iris lake-red; bill pink; legs and feet coral-red (*Forbes*).

Hab. Amboina, Ceram, Bouru.

I cannot separate the Bouru birds from those of Ceram and Amboina; the number of bars on the breast-feathers, which Count Salvadori gives as the difference in his Key to the genus, is not constant in a series from either localities.

This may be conveniently taken as the central species of which the following nine may be regarded as outlying races. Together they form a well-marked group of the genus *Macropygia*.

15. *MACROPYGIA ALBICAPILLA*.

Macropygia albicapilla, Temm. Mus. Lugd. (Bp. Consp. ii. p. 57 (Celebes)); Walden, Trans. Z. S. viii. p. 85 (p. 185); Meyer, Ibis, 1879, p. 137; Blas. Zeitschr. ges. Orn. iii. p. 133 (1886).

Macropygia turtur (pt.), Schleg. Mus. P.-B. iv. Columbæ, pp. 111, 112.

Adult male. Allied to *M. amboinensis*, but smaller, and the upper surface more claret-brown, the head grey or greyish buff in some, and whitish on the forehead; the breast with a metallic vinous tinge, in bold contrast to the rufous throat.

Adult female. A bird marked female, apparently adult, is like the female of *M. amboinensis*, but darker; beneath

rufous, unbarred, becoming ochreous brown on the abdomen and under tail-coverts, which are irregularly barred or freckled.

A *young male* (Wall.), Tondano, is like the female, but faintly barred on the breast, and greyish, faintly metallic, on the nape and mantle.

A *yet older male* (Wall.), Macassar, has the nape more metallic, and a few feathers on the breast albescent. A still older bird, male, Minahassa (Dresden Museum), is taking on the claret-brown feathers above, as well as the metallic vinous tinge on the breast, which is becoming distinctly barred. It still retains the chestnut head.

A male a stage further on has nearly acquired its dark adult plumage above, the head being in process of change from rufous to grey, the lower surface as in the adult male.

There is, according to Professor Blasius, another variety of plumage to which this species is liable, in which the head is reddish brown in the adult male. I have not had the opportunity of seeing such a specimen, but one or two of the young birds described above have pale rufous heads. In any case Professor Blasius is wrong in assuming that this variety is the *M. macassariensis*, Wall., which, as I shall presently show, is quite a different bird. Wing 6.1 to 6.3 inches, tail 7.6 to 8.4, tarsus 0.9, bill 0.9.

Birds from the Sula Islands seem a trifle smaller, wing 6 inches in a male, but otherwise identical.

Hab. Celebes, Sula Islands, *Togian Islands*.

16. *MACROPYGIA SANGHIRENSIS*.

Macropygia turtur (pt.), Schleg. Mus. P.-B. iv. Columbæ, p. 111 (Sanghir and Siao).

Macropygia sanghirensis, Salvad. Atti Acc. Torino, xiii. p. 1185 (1877-78); Blas. Ornith., 1888, p. 619, pl. iii.

Adult male. A representative of *M. albicapilla*, but larger and easily distinguished by its darker colour, almost purplish brown above, the head cinereous, paling to buff on the forehead; a vinous tinge on the crown blending into plumbeous on the nape; bright metallic amethyst on the mantle, with

bronzy-green reflections, which is faintly continued across the breast; beneath also somewhat darker and more boldly marked, the throat and upper part of the breast a kind of greyish buff, in sharp contrast to the barred breast, which has a decidedly vinous tinge, becoming metallic amethyst on the sides; the under wing-coverts, axillaries, as well as the flanks, and thigh-coverts in some specimens, chestnut-brown.

Adult female. A specimen in the Dresden Museum I am inclined to consider as an almost adult female. It is not *quite* adult, as the bases of the head-feathers are still brown or blackish. It is like the female *M. albicapilla*, but darker chestnut above, the lower surface as well as the under wing-coverts and axillaries being of a deeper rufous or red-brown, barred only on the lower tail-coverts.

Young. Another specimen, which looks like a young male, also in the Dresden Museum, is very dark brown above, and in transition to the purplish brown of the adult; the head chestnut as in the female, and the mantle in process of acquiring the metallic lustre: beneath ochreous brown, distinctly barred; the under wing-coverts, axillaries, flanks, and thigh-coverts deep chestnut-brown. Wing 6·9 inches, tail 8 to 8·5, tarsus 1, bill 0·9.

Hab. Sanghir Islands.

17. *MACROPYGIA DOREYA.*

Macropygia doreya, Bp. Consp. ii. p. 57 (1854) (New Guinea); Salvad. Orn. Pap. iii. p. 140; Nchrk. J. f. O. 1885, p. 34 (Waigiou).

Macropygia turtur (pt.), Schleg. Mus. P.-B. iv. Columbæ, p. 115.

Macropygia, sp., Meyer, Zeitschr. ges. Orn. i. p. 215 (Aru).

I have found the treatment of the *Macropygiæ* inhabiting New Guinea and the adjacent islands very difficult. A prolonged study of a large series of about fifty specimens (not including those from Batchian, Gilolo, Miosnom, and the New Britain Group, which are more easily distinguished), from New Guinea (North-west and South-east), Aru Islands,

Ké Islands, Jobi, Misor, and Mafor Islands, leads me to the conclusion that they are all races of one species; but it will be most convenient to consider them as distinct, for in the genus *Macropygia*, if you once begin "lumping," it would be difficult to know where to stop, and they are fairly constant local races.

Adult male (N.W. New Guinea). Upper surface much as in *M. amboinensis*, bright chestnut-brown, but the head decidedly cinereous, the feathers tipped with vinous; the forehead paler; nape and mantle bright metallic green, with lilac reflections; beneath the throat and breast rich vinaceous, each feather with two dark metallic-green cross bars, blending into tawny buff on the abdomen and deepening into rich reddish chestnut on the vent and lower tail-coverts; under wing-coverts, axillaries, and thigh-coverts chestnut.

Adult male (Mysol, *Wall.*, Mus. Brit.). Rather darker brown above, but with traces of metallic green on the head.

Some male specimens are more cinereous on the head, nape, and mantle, some more or less brown, vinous, or lilac on the head, or more or less barred beneath; but the above-described specimen from N.W. New Guinea may be taken as typical.

In the S.E. promontory occur birds which are otherwise typical, but without the faintest indications of barring, and with the upper tail-coverts in the males much brighter rufous. Alongside of these occur birds of which the males have the breast barred, and the head and nape a deep slate-colour; these are identical with the bird which inhabits the D'Entrecasteaux Islands (*M. cinereiceps*, Tristr.).

In the Aru Islands is found almost typical *M. doreya*.

Adult female. General colour above chestnut-brown, head rich reddish chestnut; upper surface brown, feathers tipped with chestnut, broadly so on the wing-coverts; the nape and mantle paler, barred with dark metallic green and rufous; upper tail-coverts chestnut-brown; beneath uniform rufous, very faintly barred and freckled, especially on the breast, deepening to chestnut on the under tail-coverts.

Younger birds are more mottled and freckled above with

rufous and brown, and beneath the breast-feathers are blackish, with white shafts, and the chin and throat white. Wing 6·3 inches (N.W. Guinea), 6·8 to 6·6 (S.E. New Guinea), tail 8, tarsus 0·9, bill 0·8.

Hab. The mainland of New Guinea and many of its adjacent islands, including the Aru group.

The next three species are more or less closely allied to *M. doreya*.

18. *MACROPYGIA KEYENSIS*.

Macropygia phasianella (pt.), Wall. Ibis, 1865, p. 389.

Macropygia turtur (pt.), Schlegel, Mus. P.-B. iv. Columbæ, p. 114.

Macropygia keyensis, Salvad. Ann. Mus. Civ. Genova, ix. p. 204 (1876); id. P. Z. S. 1878, p. 89; id. Orn. Pap. iii. p. 146.

Adult male. Like the typical *M. doreya*, but has the brighter rufous upper tail-coverts of the birds of that species from the S.E. Peninsula. The head pale cinnamon-brown, with a cinereous shade on the occiput, and the nape and mantle metallic green. Beneath it differs from all the specimens I have seen in its pale colour and the conspicuous barring on the whole lower surface, the breast being faintly vinaceous.

It somewhat resembles *M. maforensis*, Salvad.

The type, which was collected by the 'Challenger' Expedition, is in the British Museum.

A *young* specimen from Ké, in the Genoa Museum, is very dark in plumage, and the head beautifully mottled with chestnut and black, from the bases being black and the tips chestnut. There is a trace of metallic green on the mantle, the feathers of which are dark brown with pale tips.

Hab. The Ké Islands.

19. *MACROPYGIA MAFORENSIS*.

Macropygia turtur (pt.), Schleg. Mus. P.-B. iv. Columbæ, p. 115 (Mafoor).

Macropygia maforensis, Salvad. Ann. Mus. Civ. Gen. ix. p. 204 (1876); id. Orn. Pap. iii. p. 148.

Adult male. Like *M. doreya*, but with the head and nape

rich blue-slate, buffy brown on the forehead. Beneath very pale tawny buff, the breast faintly vinaceous.

Female. I have seen one specimen, belonging to the Genoa Museum, which, however, is not quite adult, having still the chin and throat white.

Hab. The Island of Mafor.

20. *MACROPYGIA CINEREICEPS*.

Macropygia cinereiceps, Tristr. Ibis, 1889, p. 558 (Fergusson Island).

Another outlying race of *M. doreya*, like *M. maforensis* and *M. keyensis*, with the breast barred, but the head and nape deep slate-colour.

Hab. The D'Entrecasteaux Islands, South-eastern New Guinea.

I have not been able to examine the types, which are in the York Museum, but Canon Tristram assures me that the S.E. New Guinea bird in the British Museum is identical.

Section *b*.—*Breast conspicuously vinaceous, without or with only traces of transverse bars.*

21. *MACROPYGIA BATCHIANENSIS*.

Macropygia amboinensis, var. *batchianensis*, Wall. Ibis, 1865, p. 389.

Macropygia turtur, Schleg. Mus. P.-B. iv. Columbæ, p. 112.

Macropygia batchianensis, Salvad. Orn. Pap. iii. p. 136.

Adult male. Very similar to *M. amboinensis*, from which it differs by the breast being conspicuously vinaceous, the feathers tipped with whitish, unbarred, the head generally paler, but in one specimen as in that species.

In two specimens the chin and throat are very rufous, and there are faint traces of barring on the breast. A third specimen, marked *female* (Wallace), is like the male, but slightly barred below. I do not consider this reliable. It is evidently a bought skin. It has, moreover, the largest measurements in the series.

Adult female. Another specimen, so marked by Wallace, is of the general rufous-brown type of the females of this group.

Young birds the same, more or less mottled according to age.

Wing 6·4 to 6·8 inches, tail 8·5, tarsus 0·9, bill 0·9.

Hab. Batchian, Ternate, Gilolo, *Morty*, *Kajoa*.

22. *MACROPYGIA GRISEINUCHA*.

Macropygia griseinucha, Salvad. Ann. Mus. Civ. Gen. ix. p. 204 (1876) (Miosnom), et xii. pp. 430, 431; id. Orn. Pap. iii. p. 140.

This species somewhat resembles *M. doreya*, but is browner above, and the metallic nape and mantle are much more conspicuous.

Two *adult males* are unbarred beneath, as in *M. batchianensis* and *M. carteretia*, which they also resemble in the pale tips to the vinaceous breast-feathers, but they have not the rusty throat of *M. batchianensis*. A third specimen is slightly barred below, and the breast-feathers have no pale tips, in fact it is more like a typical *M. doreya*, intermediate between it and *M. batchianensis*. Wing 6·5 to 6·8 inches, tail 7·7.

The above specimens are in the Genoa Museum, but I have not had the opportunity of seeing a female. It is, however, almost sure to be of the usual type.

Hab. The Island of Miosnom.

23. *MACROPYGIA CARTERETIA*.

Macropygia carteretia, Bp. Consp. ii. p. 57 (New Ireland); Sci. P. Z. S. 1877, p. 111, et 1879, p. 447 (New Britain).

A well-defined species of the *M. batchianensis* type, but of a much duller and less chestnut-brown above.

Adult male. Head of a light vinous brown, paling on the forehead, and conspicuously set off by the broad nuchal patch of plumbeous metallic green, with purple reflections; beneath pale buff, breast clear vinaceous, very markedly tipped with white in adult specimens, getting darker towards the under tail-coverts, which are pale rufous; under wing-coverts and axillaries chestnut.

Adult female. Like the females of the whole group.

One *nearly adult* (Mus. Tristr.). Above chestnut-brown; nape and mantle brown, freckled with paler, and slightly barred with darker brown; beneath rufous-brown, slightly

mottled with darker colour on the breast, showing the last traces of immaturity.

Young. Of the typical mottled plumage.

Iris lavender, with an outer circle of yellow.

A *young male*, Mowda Island (*Richards*), also in Canon Tristram's Collection, has the iris light red and the bill and feet cherry-red. It is like the adult, but retains traces of the barred nuchal patch, slight traces of barring on the breast, and a few of the head-feathers have black bases.

Wing 7 inches, tail 9, tarsus 0·9, bill 0·85 to 1.

Hab. New Britain, New Ireland, Duke of York Island, New Hanover.

Group D.—*Adults earthy or rufous brown above, barred beneath, no metallic colours. Sexes alike.*

24. *MACROPYGIA MAGNA*.

Macropygia magna, Wall. P. Z. S. 1863, p. 497 (Timor); id. Ibis, 1865, p. 389; Schleg. Mus. P.-B. iv. Columbæ, p. 108.

Male, apparently adult. Head dark cinnamon-rufous; nape and mantle minutely freckled and barred with dark brown and buff; remainder of the upper surface brown, more or less clearly barred and tipped with rufous, especially on the wing-coverts: beneath buff, conspicuously barred with dark brown, the breast-feathers tipped with paler; chin, throat, and lower tail-coverts more rufous and unbarred; under wing-coverts, axillaries, and inner webs on the inner sides of the primaries bright cinnamon-rufous; tail, two outer pairs of feathers rufous, with a long marginal dark spot on the inner web.

Specimens presumably adult seem to vary somewhat, especially in the depth of rufous beneath and the barring of the nape and mantle, which is sometimes almost white.

Young. A young male is paler rufous above, and the head has the black mottled appearance of immaturity; the upper tail-coverts are barred; beneath rufous, the breast-feathers being blackish, with rufous tips.

Iris pale golden orange; bill, legs, and feet pinkish purple (*Forbes*). Wing 7·7 inches, tail 8·6 to 9, tarsus 0·95, bill 0·95.

Hab. Timor.

25. *MACROPYGIA MACASSARIENSIS*.

Macropygia macassariensis, Wall. Ibis, 1865, p. 389.

Macropygia albicapilla, Temm. (pt.), Blas. Zeitschr. ges. Orn. iii. pp. 133, 179; Meyer, Ibis, 1879, p. 137.

Allied to *M. magna*. Above mouse-brown, minutely freckled with yellowish buff on the nape and mantle, the shoulder-coverts with traces of rufous tips; beneath, throat and sides of head buffy brown, remainder of the lower surface buff, barred with brown; tail beneath with two outer rectrices rufous, marked with a brown spot on the inner web as in *M. magna*; under wing-coverts, axillaries, and margin of the inner web of the primaries rufous; the shoulders dark brown. Wing 7·5 inches, tail 8, tarsus 0·95, bill 0·95.

Professor Blasius and Dr. Meyer have been in error (*ll. cc.*) in assuming that because there are two varieties in the adult plumage of *M. albicapilla*, one of them must be *M. macassariensis*, Wall.

One specimen, which I presume is the type, is in the British Museum. It is marked *M. macassariensis* in Mr. Wallace's writing. It does not belong to the same group as *M. albicapilla*, but to the small group of which *M. magna* and *M. timor-laoensis*, Meyer, are the only other species.

Hab. Macassar.

26. *MACROPYGIA TIMOR-LAOENSIS*.

Macropygia, sp., Scl. P. Z. S. 1883, pp. 51, 195, 200.

Macropygia timor-laoensis, Meyer, Zeitschr. ges. Orn. i. p. 214 (1884).

Adult male. Above, head dark brown, tipped with rufous, buff, or white; nape and mantle barred with white and brown or dark metallic green; rest of the upper surface pale hair-brown freckled with white or buff; wing-coverts, secondaries, and tertiaries darker, broadly tipped with rufous; beneath buffy brown, broadly barred with dark brown, which has metallic purple reflections on the breast; lower tail-coverts rufous, unbarred; under wing-coverts bright cinnamon-rufous; the two outer tail-feathers only, as in the last two

species, with marks on the inner web. Wing 7·5 to 7·7 inches, tail 8 to 8·3, tarsus 1, bill 1.

The sexes appear to be alike. Specimens vary considerably in the shade of brown as well as in the degree of barring.

Dr. Meyer has kindly lent me the types from the Dresden Museum; one is much darker than others above and much more rufous below, most likely a younger bird.

Hab. Timor-laut.

The next group is a well-marked one, and has been separated by Bonaparte as *Reinwardtænas*. It looks exactly like *Macropygia* except in plumage. I have retained the generic title because it may be found, when *Reinwardtænas* is anatomically examined, that it differs from *Macropygia*, and, further, had I suppressed it, a new title would have become necessary for *R. minor*, Schlegel, since that name is already preoccupied by Swinhoe for the Hainan race of *M. tusalia*. The tail is exactly as in *Macropygia*.

Group E.—*Of two colours, chestnut or slate and white ;
of large size.*

Genus II. REINWARDTÆNAS, Bp. Consp. ii. p. 59 (1854).

1. REINWARDTÆNAS REINWARDTI.

Columba reinwardti, Temm. Pl. Col. 248 (Celebes); Knip, Fig. ii. pl. 6.

Reinwardtænas reinwardti, Wald. Trans. Z. S. viii. p. 85 (p. 185); Salvad. Orn. Pap. iii. p. 126.

Adult. Head, neck, and mantle pale lavender, darkest on the latter; primaries and wing-coverts dark brown, with a purplish tinge; the remainder of the upper surface rich chestnut; beneath nearly pure white as far as the abdomen, which is lavender, getting deeper on the lower tail-coverts; rectrices, two outer pairs pale lavender, with a transverse bar and tip of brown, the next pair barred with brown and tipped with chestnut, the two next pairs chestnut, with a brown base and a lavender bar; under wing-coverts dark slaty, axillaries lavender.

Sexes alike.

Specimens from New Guinea have the breast pale lavender in place of pure white.

Young. A young female from Andai has the upper surface brown, changing into chestnut, the tail and wing-coverts as in the adult, but much deeper chestnut; beneath, from the breast, as in the adult: otherwise all the parts which are lavender or white in the adult are dull earthy brown, with a few lavender feathers tipped with rufous appearing on the head and neck. Wing 8·7 to 9·3 inches, tail 10 to 12, tarsus 1·1, bill 1 to 1·1.

Hab. Lombock, Flores, Celebes, and New Guinea, including nearly all the intervening islands from Morty in the north to Amboina in the south.

2. REINWARDTÆNAS MINOR.

Macropygia reinwardti minor, Schleg. Mus. P.-B. iv. Columbæ, p. 106 (Soëk).

Reinwardtænas minor, Salvad. Orn. Pap. iii. p. 129.

I have not had the opportunity of examining specimens of this species, but it is described by Count Salvadori as being much smaller than the last and of a much purer white.

Hab. The Island of Misor.

3. REINWARDTÆNAS BROWNI.

Macropygia browni, Sel. P. Z. S. 1877, p. 110.

Reinwardtænas browni, Salvad. Orn. Pap. iii. p. 130.

Adult (type). Like *R. reinwardti*, but all the chestnut parts replaced by slaty black; the four outer tail-feathers with a pale slaty patch across the middle.

Sexes alike.

Wing 9 inches, tail 10, tarsus 1·1, bill 1·1. Iris light yellow, bill and feet cherry (*Richards*). Iris blue, with a broad orange margin; legs red (*Brown*).

Hab. New Britain, Duke of York Island.

Genus III. TURACÆNA, Bp.

It has been the custom hitherto to treat *Turacæna* as an ally of *Macropygia*; and perhaps rightly so, for its habits

seem to be somewhat similar. On the other hand, the tail is not that of *Macropygia*, being quite plain and much less graduated.

I am not aware that the anatomy of *Turacæna*, as distinguished from *Macropygia*, has ever been described, but I fully expect to find that when its internal structure is examined it will be found necessary to remove it from its present position.

Genus *TURACÆNA*, Bp. Consp. ii. p. 58 (1854).

“Orbitæ nudæ, pedes brevissimi, cauda minus graduata.”

Type *Columba manadensis* (Q. & G.).

Confined to the Australian Region.

1. *TURACÆNA MANADENSIS*.

Columba manadensis, Quoy et Gaim. Voy. Astrolabe, Zool. i. p. 248, pl. 30 (1830) (Manado).

Turacæna manadensis (Q. & G.), Wald. Trans. Z. S. viii. p. 85 (p. 185); Meyer, Ibis, 1879, p. 137.

Adult. Head and throat white; occiput, nape, mantle, and breast bright metallic green, the feathers being brown at the base, and metallic green at the tip, with a shade of dark blue between. Remainder of the plumage very dark slate, with a shade of purple on the upper surface, and the metallic green breast gradually blending into purplish slate on the belly.

Sexes alike.

Wing 7·5 to 8 inches, tail 9, tarsus 1, bill 1. Iris red (*Meyer*). Orbits bare, red; bill and feet black (*Wallace*).

Birds from the Sula Islands are a trifle smaller, but otherwise identical.

It feeds on different fruits, especially that of *Capsicum fastigiatum* (*Wallace*).

Hab. Celebes, Sula Islands.

All the birds in the British Museum seem to be adult except one, which is much browner in plumage, especially on the wings and tail; the neck and mantle more plumbeous, with green and bluish-purple reflections.

